Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

# ENVIRONMENTAL ASSESSMENT
**For Routine Actions with Limited Environmental Impact**

## Part I. Proposed Action Description

1. Applicant/Contact name and address: **McFarland White Ranch Inc.**
   **PO Box 235**
   **Two Dot, MT 59085**

2. Type of action**: Application to Change an Existing Irrigation Water Right No. 40A 30117289 (Statement of Claim 40A 110018).**

3.

4. Water source name: **Big Elk Creek**

5. Location affected by project: **The project is located in Wheatland County about 1-mile Southeast of the town of Two Dot, Montana.**

6. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

**Applicant proposes to change the point of diversion and place of use for Statement of Claim No. 40A 110018. The project is located in Wheatland County about 1-mile east of the town of Two Dot, Montana. Specifically, the Applicant is proposing to exchange water rights associated with an existing, historic flood irrigation system to partially service 220.0 acres of pivot irrigation (two pivots). The point of diversion for this application will change from a headgate located in the SENESW Section 26 T8N R13E to a pumpsite approximately 0.6 miles upstream in the NWSENW Section 35 T8N R13E. The proposed flow rate for the pivot irrigation is 4.68 CFS (2100 GPM). One of the two pivots encompass a total of 216.1 acres in Sections 25, 26, 35 & 36 T8N R13E, of which 113.6 acres are proposed to be irrigated by this change. The other pivot includes a total of 162.6 acres in Sections 35 & 36 T8N R13E, of which 106.4 acres in the east half of Section 35 would be irrigated if this change were authorized. Considering there is no control over individual spans of the pivots and the Applicant wishes to omit state owned lands from the place of use for this change, additional privately-owned acres will be retired and irrigation under the pivots for this change would be limited to 220.0 acres.**

***NOTE: A supplemental change to Statement of Claim No. 40A 110020 (40A 30072563) was previously authorized to service the two pivots. The Applicant plans to submit an additional application to change a portion of Statement of Claim No. 40A 110020 to flood irrigate the same acreage being converted to pivot irrigation in this change proceeding.***

7. Agencies consulted during preparation of the Environmental Assessment: (include agencies with overlapping jurisdiction)

**Dept. of Environmental Quality Website – Clean Water Act Information Center**
**MT. National Heritage Program Website - Species of Concern**
**USDI Fish & Wildlife Service Website - Endangered and Threatened Species**
**MT State Historic Preservation Office - Archeological/Historical Sites**
**USDA Natural Resources Conservation Service – Web Soil Survey**
**USDI Fish & Wildlife Service – Wetlands Online Mapper**

## Part II. Environmental Review

### 1. Environmental Impact Checklist:

## PHYSICAL ENVIRONMENT

**WATER QUANTITY, QUALITY AND DISTRIBUTION**

***Water quantity*** *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

*Determination*: **No Significant Impact.**

**Big Elk Creek is listed as a chronically dewatered stream by DFWP. The stream reach listed as chronically dewatered begins at river mile 0 and ends at river mile 10. Big Elk Creek also has FWP Instream Flow Protection/Qualifications. The table below contains information relating to DFWP's Water Reservation.**

| **Section:** MOUTH to BIG ELK CR, LEBO FK<br>**Type:** Water Reservation Granted<br>**River Miles:** 0 to 23.9 | | | |
|---|---|---|---|
| Begin Date | End Date | Flow (CFS) | Priority Date |
| 01 / 01 | 12 / 31 | 9.50 | 07/01/1985 |

**As mentioned above and when considered in combination with Applicant's other changes, the Big Elk Creek source will experience reduced diversions compared to historic flood irrigation practices. This project is not anticipated to have a significant adverse impact to water quantity on Big Elk Creek as the overall effect from Applicant's multiple changes and irrigation method conversions will reduce the flow rate and volume of water diverted from the source.**

***Water quality*** *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

*Determination:* **No Significant Impact.**

**The DEQ website does not list any information regarding Big Elk Creek. The proposed project would reduce diversions from the source and should not have a significant impact on water quality.**

***Groundwater*** *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

*Determination*: **No Significant Impact.**

**The proposed change should not have any impacts on ground water quality or supply. Although a 176.2-acre parcel will be retired from flood irrigation and moved to pivot acreage in this change, the current pivot acreage water right is proposed to be moved back to the same historically retired flood acres in a future change proceeding.**

**DIVERSION WORKS** *- Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

*Determination*: **No Significant Impact.**

**The point of diversion for this application will change from a headgate located in the SENESW Section 26 T8N R13E to a pumpsite approximately 0.6 miles upstream in the NWSENW Section 35 T8N R13E. As mentioned previously, the project will reduce diversions from Big Elk Creek. No impacts to the stream channel, flow modifications, barriers, riparian areas, dams, and well construction are anticipated. The system is in place and no further impacts due to diversion works are expected because of this project. A future change, if authorized, is proposed to move water back to the retired flood acreage involved in this change.**

**UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES**

***Endangered and threatened species*** *- Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

*Determination*: **No Significant Impact.**

**The Montana National Heritage Program lists seven Species of Concern within Township 8 North, Range 13 East. The common names for the six bird species include Great Blue Heron, Ferruginous Hawk, Long-billed Curlew, Chestnut-collared Longspur, Mountain Plover and the McCown's Longspur. The Montana Nation Heritage Program also lists one fish; the Northern Redbelly Dace. No impacts to any of these species are expected as the project is located entirely on fields disturbed by existing farming practices.**

***Wetlands*** *- Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

*Determination*: **No Significant Impact.**

**The National Wetlands Inventory website shows Freshwater Emergent Type Wetlands adjacent to the source through a limited portion of the Applicant's claimed place of use. Wetlands should not be significantly impacted as a result of this project; the wetlands are located outside of the area being irrigated by the center pivot and the area historically flood irrigated.**

***Ponds*** **-** *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

*Determination*: **No Significant Impact.**

**This project does not involve a pond. No impact to wildlife, waterfowl, or fisheries is anticipated.**

**GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE** - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

*Determination*: **No Significant Impact.**

**The NRCS Web Soil Survey shows the predominant soil unit under the proposed pivot location is the Varney complex with 0 to 4 percent slopes. This unit consists of a gravelly loam mix that is well drained. The soil is moderately susceptible to wind erosion, but the current farming practices (hay production) limit soil erosion due to root cohesion and limited exposure (e.g. - crop coverage helps minimize wind erosion). This soil composition is also largely non-saline and should not cause saline seep. There is a low likelihood of significant impact to soil quality because of this project.**

**VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS** - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

*Determination*: **No Significant Impact.**

**Construction associated to this project was completed prior to this application. Any impacts to existing cover will have already occurred and no significant impacts from the project have been noted. It is the responsibility of the land owner to control the spread of noxious weeds on their property.**

**AIR QUALITY** - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

*Determination*: **No Significant Impact.**

**No impacts to air quality or adverse effects to vegetation are expected because of this change proposal. The pivot pumps are driven by electric motors.**

**HISTORICAL AND ARCHEOLOGICAL SITES** - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

*Determination*: **No Significant Impact.**

**The acres under the proposed pivot have been previously disturbed by farming, irrigation, and grazing operations. There is a low likelihood historical sites will be affected and a cultural resource inventory is unwarranted at this time.**

**DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY** - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

*Determination*: **No Significant Impact.**

**No additional impacts are anticipated.**

## HUMAN ENVIRONMENT

**LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS** - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

*Determination*: **No Significant Impact.**

**No locally adopted environmental plans or goals have been identified. The project is consistent with local agriculture practices.**

**ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES** - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

*Determination*: **No Significant Impact.**

**The proposed action should not negatively impact recreational activities in the area. This proposal is located on private lands.**

**HUMAN HEALTH** - *Assess whether the proposed project impacts on human health.*

*Determination*: **No Significant Impact.**

**No impacts to human health have been identified.**

**PRIVATE PROPERTY** - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No_**X**__ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

*Determination*: **No known impacts.**

**OTHER HUMAN ENVIRONMENTAL ISSUES** - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

*Impacts on:*

(a) *Cultural uniqueness and diversity?* **None**

(b) *Local and state tax base and tax revenues?* **None**

(c) *Existing land uses?* **None**

(d) *Quantity and distribution of employment?* **None**

(e) *Distribution and density of population and housing?* **None**

(f) *Demands for government services?* **None**

(g) *Industrial and commercial activity?* **None**

(h) *Utilities?* **Slight increase in electrical consumption from pivot operations.**

(i) *Transportation?* **None**

(j) *Safety?* **None**

(k) *Other appropriate social and economic circumstances?* **None**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts – The **Department realizes less return flows are expected in the riparian zone along Big Elk Creek due to the conversion from flood to sprinkler irrigation. The Applicant proposes to divert less flow and volume with the pivot system and as such, the timing of the flow regime will be modified. Secondary impacts are expected to be minor; the reduction of flow and volume from the combination of Applicant's changes ensures more water will be available in the stream. The consumptive use for the new center pivot system as it relates to historic flood irrigation will not change.**

Cumulative Impacts – **More and more historic flood acres are being converted to center pivot sprinkler irrigation to facilitate better water management, increased production and reduced labor. Water is more easily managed with a pivot and application rates can be matched to the landowners' specific soil characteristics. Generally, acres under a center pivot system will experience increased production compared to flood acres, which in turn increases crop water consumption. In this instance, the Applicant will be limited to using the same consumptive use after conversion from flood to pivot irrigation and a water measuring device will aid in controlling and tracking the amount of water used.**

3. *Describe any mitigation/stipulation measures:*

**No mitigation or stipulation measures have been identified by the Applicant. The Department may impose a measurement condition to ensure required criteria are met.**

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

**No action alternative: Deny the application. This alternative would result in no change to the existing water rights for irrigation.**

*PART III. Conclusion*

***1. Preferred Alternative***

The preferred alternative is the proposed alternative.

***2 Comments and Responses***

None Received.

**3. *Finding:***
*Yes___ No_**X**__ Based on the significance criteria evaluated in this EA, is an EIS required?*

*If an EIS is not required, explain <u>why</u> the EA is the appropriate level of analysis for this proposed action:*

**None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524.**

*Name of person(s) responsible for preparation of EA:*

*Name:* Douglas D. Mann
*Title:* Hydrologist – LRO Date: 5/24/2018